DOCUMENT RESUME

ED 137 578 08 CE 010 590

AUTHOR Kapes, Jerome T.; Mason, Suzanne L.
TITLE Dissemination of Vocational Development Research. Final Report.
INSTITUTION Lehigh Univ., Bethlehem, Pa.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.; Pennsylvania Research Coordinating Unit for Vocational Education, Harrisburg.
BUREAU NO 19-5803
PUB DATE Aug 76
NOTE 47p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Counselors; Educational Experience; Educational Research; Employment Experience; Guidance Personnel; Higher Education; High School Graduates; *Information Dissemination; *Job Placement; Longitudinal Studies; *Occupational Guidance; Program Effectiveness; *Relevance (Education); Research Projects; Research Utilization; Secondary Education; *Staff Improvement; Student Experience; Student Opinion; *Vocational Development; Vocational Education; Vocational Followup
IDENTIFIERS *Pennsylvania

ABSTRACT

The objective of the Pennsylvania longitudinal vocational development study was to produce and disseminate vocational development research to vocational directors and counselors to help them have an impact on vocational guidance and job placement activities. Ministudies were conducted using previously collected data relating in-school student and program data to out-of-school success and satisfaction. Findings from the studies were written in eight monthly reports (which are appended), from October 1975 through May 1976, and sent to all area vocational-technical schools as well as selected university and State education personnel. The ministudy dealt with such topics as student experiences with high school, job, and college; success after high school as measured by job status, salary, and college achievement; sex and curriculum differences related to success and satisfaction; and several other issues. Although school personnel offered lip service concerning the usefulness of this type of research, no invitations were received to visit schools and help school personnel to use the results of the research, so the extent to which the impact part of the objective was met is questionable. (MF)

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ED137578

FINAL REPORT

DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH
(Project #19-5808)

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August, 1976

PENNSYLVANIA DEPARTMENT OF EDUCATION

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ACKNOWLEDGEMENTS

The project report contained herein represents the eighth year of work on some aspect of the Longitudinal Vocational Development Study (VDS). Over the years, hundreds of individuals have worked on the project in some capacity and many of their names have appeared in the acknowledgements of previous reports.

During the past year the individuals deserving recognition for their work on the project include many whose names are not mentioned here. However, the project owes a special acknowledgement to Dr. Randall B. Martin, formerly of Penn State University, for his help with the original data tapes and Dr. J. Gary Lutz of Lehigh University for his help with all computer analysis conducted during the project year. Also, the project staff would like to thank Drs. Karl Dutt of Eastern Northampton AVTS and Bruce Shellenberger of the Vocational Guidance Section of the Bureau of Vocational Education for their help with the mailing list and the two presentations which were made at the PPGA and PVA Conventions. Lastly, the staff of the Pennsylvania Research Coordinating Unit (RCU) in Vocational Education and especially Dr. Carroll A. Curtis, the RCU Director, are to be commended for their continued helpfulness whenever there was a need.

ABSTRACT

The purposes of this project have been to: (1) conduct small mini-studies using previously collected VDS data relating in-school student and program data to out-of-school success and satisfaction data; (2) write brief, easily read, non-technical reports on a monthly basis and send them directly to vocational directors and counselors in Pennsylvania; (3) visit local schools upon invitation to discuss the relevancy of the reports, and (4) help local school personnel conduct their own studies of a similar nature.

The procedures for the project included the acquisition of updated VDS data tapes from the Department of Vocational Education at Penn State, the analysis of relevant data, and the publication of eight monthly reports from October through May of the project year. The reports dealt with such topics as students' experiences with high school, job and college; success after high school as measured by job status, salary and college achievement; sex and curriculum differences as related to success and satisfaction; students' social and political opinions; the relationship between aptitude achievement and values as related to post-high school success and satisfaction, and several other related issues. A complete set of all eight reports, color coded for each month, are contained in the report.

Dissemination activities of the project included mailing at least 2 copies of each report to all AVTS's in Pennsylvania in addition to other selected University and State Department of Education personnel. In addition, two project presentations were made during the year at the state PPGA and PVA Conventions. Other activities included discussions with various AVTS personnel both by phone and in person concerning the published reports. Although an offer to visit with school personnel was extended in each newsletter, no invitations were received and no formal visits were arranged.

PROBLEM

This research project was designed to deal with two related problems. Both problems, generally speaking, are concerned with the vocational guidance aspects of Vocational Education. The first of these two problems involved the dissemination of current research findings (concerning the relationship between students' in-school and out-of-school vocational behavior) in such a way as to have greater immediate impact on vocational counseling and job placement activities. The second problem was to find a way to help counselors and job placement personnel in the schools to devise their own research to better utilize the information they currently have available in such ways as to enhance the vocational guidance process.

BACKGROUND INFORMATION

Beginning in the Fall of 1968, the Department of Vocational Education at the Pennsylvania State University began the longitudinal Vocational Development Study (VDS) project (Impellitteri and Kapes, 1971). The VDS project has been in operation for eight years and during that time it has been largely supported by Pennsylvania's Research Coordinating Unit (RCU) in Vocational Education. The three main research thrusts of the VDS project have been (1) the evaluation of vocational education programs; (2) the validation of vocational guidance instruments, and (3) the investigation of vocational development theories as they apply to today's youth. The VDS project was designed as a ten-year longitudinal research effort which had as its beginning samples the entire ninth grade from Altoona (1968-69), Hazleton and Williamsport (1970-71) Pennsylvania. Over the seven year period from 1968 to 1975 student and program data, which extends through one year after graduation from high school, had been gathered and stored on computer data tape for the approximately

3,000 students in the sample. Twenty-one VDS monographs and two final reports have been produced to date using the project data in addition to numerous other reports, convention papers and journal articles.

As a part of the VDS dissemination effort, a brief capsule of findings and implication was included as a separate blue page section in each monograph published. The VDS monographs were mailed to AVTS directors in Pennsylvania, PDE Vocational Education staff, State RCU's, ERIC, VEIN, and selected other interested individuals. Although requests for the VDS monographs have been numerous and from a broad range of individuals and institutions, there appeared to be some question as to the impact of the research on local programs. This proposed project addressed itself to the need for a more integrated approach to the dissemination and use of the information available from the VDS project.

OBJECTIVES

The general objective of the project was to produce and disseminate vocational development research to have an impact on vocational guidance and job placement activities.

The specific project objectives were to:

1. Conduct small mini-studies using previous collected data from VDS Project to relate in-school student and program characteristics to out-of-school success and satisfaction criteria.
2. Write brief, easily-read, non-technical reports published monthly and mailed directly to vocational directors, counselors and job placement coordinators in the state.
3. Invite recipients of monthly reports to arrange for one-half day visits by project staff for the purposes of discussing relevancy of the research for vocational guidance and job placement in their particular school.
4. Help interested school personnel devise their own studies with available data which would enhance vocational guidance process in their own schools.

PROCEDURE

Sample

The study samples for this project included those individuals in the VDS data bank ($N \approx 3000$) for whom data was available on the characteristics chosen for each monthly report.

The samples for dissemination included three groups. First a mailing list was taken from the Pennsylvania Area Vocational-Technical School Guidance Personnel List 1975-76 which included 76 school counselors and job placement personnel; one from each AVTS in Pennsylvania. Each received two copies of the report to be circulated in the school. The second group added to the mailing was composed of 11 directors of AVTS's in Lehigh University's geographic area and the three schools in Altoona, Hazleton and Williamsport where the student sample originated. Each director received one copy of the report. In addition, the mailing list contained a third group which included Lehigh University faculty, individuals associated with the VDS Project in the past, Pennsylvania Bureau of Vocational Education Staff, and others who requested to be included on the mailing list during the course of the year. The total monthly mailing at the conclusion of the project year was 117.

Data and Analysis

Data for the eight reports was chosen from that available in the VDS data bank. In each report the specific variables were utilized to examine the relationships between in-school student and program characteristics and out-of-school success and satisfaction data.

VDS Report number one (gold) presented background information on the VTS Project and the goals of the VDS Reports to the readers. In addition,

the response rate to the Follow-up Questionnaire for all three samples was reported so that the readers might understand the sample and use good judgement in drawing conclusions from later studies. Part of that questionnaire dealt with the status of the graduates in terms of their family, post secondary education and occupation. This report also broke down the responses for all three samples both in numbers and percent.

VDS Report number two (blue) examined the mean scores of the students' school and self satisfaction rating as gathered during the end of their senior year for all three samples. This study was broken into two curriculum categories, vo-tech and non-vo-tech. In another section of this newsletter, a study was reported concerning the samples from Hazleton and Williamsport and their response to a telephone questionnaire concerning satisfaction with their guidance program.

The focus of the third report (pink) was on sex as it relates to possible differences which might exist between males and females in their life experiences approximately one year after graduation from high school. The mean scores of such variables as satisfaction with high school education, post high school G.P.A. and Salary were recorded in table form. VDS Report number four (maize) examined the same variables as report three except that the students' curriculum instead of sex was the basis of the comparison.

The fifth report (dark green) utilized the same high school curriculum categories as a basis for comparing mean scores of student attitudes and opinions one year after graduation. The first part of the report dealt with social and political opinions and the second comparison with the curriculum as it related to student ratings of the value of high school subjects to the students' post high school status.

The sixth, seventh and eighth VDS Reports were all based on correlational analysis. The sixth report (yellow) examined the relationship between ninth grade aptitude scores (GATB) and high school and post high school achievement variables. In report number seven (salmon) the same in-school success or achievement measures were utilized to examine their relationship to success and satisfaction one year after graduation from high school. The purpose of the eighth and final VDS report (pale green) was to compare selected in-school affective and socio-economic measures among curricula and to examine their relationship to satisfaction with employment or post high school education. In this study a further examination of the predictors was made using a multiple regression analysis. This was the most extensive analysis utilized and the most difficult to report to the reader.

Dissemination

The key to the entire VDS Project was the dissemination of the research to vocational guidance personnel in Pennsylvania AVTS's. Each month a mini-study was conducted utilizing data chosen which would be relevant to the readers. This research was published in the form of a 4-page newsletter and mailed each month from October, 1975 to June, 1976 to those on the mailing list mentioned earlier.

In each VDS report an offer was extended to discuss the usefulness of the findings with local school personnel and to assist in conducting similar research in their schools to enhance their curriculum and guidance programs. In response to this offer no invitations were received and no formal visits were arranged.

Other methods of dissemination did elicit some response. In November, a report was presented at the P.P.G.A. convention in Philadelphia. In June research from the entire project year was presented at the Pennsylvania Vocational Education Conference at Seven Springs. Both presentations provoked interest and discussion of the need for research in guidance.

During the project year, many requests to be added to the mailing lists were received. These requests came from various sources including some of those who attended the presentations.

The School of Education faculty at Lehigh University was also part of the dissemination efforts of the project staff. The data was converted to the Lehigh computer system with the student names removed to preserve confidentiality. Faculty and students were encouraged to utilize the data, with assistance from the project staff, in their personal research efforts. Lehigh students were also informed of the research in counseling and vocational courses. Several students did use the VDS Reports for their personal research, and it is hoped that future students will analyze and report on other VDS data.

FINDINGS

In order to provide a complete presentation of the findings of this study, the eight VDS Reports produced during the project year are included here. A listing of the eight reports by month, color and topic is provided below.

Month	Color	Topic
October	Gold	Introduction to the VDS Project and Follow-up Data
November	Blue	Satisfaction with School, Self and Guidance
December	Pink	Post High School Experiences as Related to Sex
January	Maize	Post High School Experiences as Related to Curriculum
February	Dark Green	Student Attitudes and Opinions as Related to Curriculum
March	Yellow	Aptitude vs. Achievement
April	Salmon	School Achievement vs. Post High School Success and Satisfaction
May	Pale Green	Affective-Socioeconomic Variables vs. Post High School Satisfaction

VDS REPORT

FOR THE DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH

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. 1 No. 1 October, 1975

BACKGROUND INFORMATION

This VDS Report is the first of eight which will be published between now and the end of June, 1975. The report is being published and disseminated as a part of a project designed to deal with the vocational guidance aspects of Vocational Education. The project, which is supported by Pennsylvania's Bureau of Vocational Education Research Coordination Unit (RCU), is intended to deal with two basic problems concerned with converting research into practice. The first of these two problems involves the dissemination of current vocational development research in such a way as to have greater impact on vocational counseling and job placement activities. The second problem is that of implementation and involves helping vocational counselors and job placement personnel in the schools to devise their own research and development activities to better utilize the information they currently have available in such ways as to enhance the vocational guidance process. The major source of current vocational development research used as input to this project is the longitudinal Vocational Development Study (VDS) project which has been conducted since 1968 in the Department of Vocational Education at the Pennsylvania State University with the support of Pennsylvania's RCU.

THE VDS PROJECT

The three main research thrusts of the VDS project have been (1) the evaluation of vocational education programs; (2) the validation of vocational guidance instruments, and (3) the investigation of vocational development theories as they apply to today's youth. The VDS project was designed as a ten-year longitudinal research effort and has as its beginning samples the entire ninth grade classes from Altoona (1968-69), Hazleton and Williamsport, (1970-71) Pennsylvania. Over the seven-year period from 1968 to 1975 student and program data, extending through one year after graduation from high school, has been gathered and stored on computer tape for the approximately 3,000 students in the sample. Twenty-two VDS monographs and numerous other reports have been produced to date using the data. A listing of the 22 previously published monographs can be obtained upon request at the address provided above. Further information concerning the design of the VDS project is contained in VDS monograph number 1, "A Longitudinal Study of Vocational Development: Implications for Vocational Education and Guidance" (Impellitteri and Kapes, 1971). Microfiche copy of all monographs are available by writing to VEIN (Vocational Education Information Network), Department of Educational Media, Millersville State College/Ganser Library, Millersville, Pennsylvania, 17551. A limited number of printed copies of the monographs can be obtained from the Department of Vocational Education, Pennsylvania State University, 250 Chambers Building, University Park, Pennsylvania, 16802.

ACTIVITIES AND PROCEDURES

The major activities of this phase of the VDS project, which is being conducted at Lehigh University, include the analysis of previously collected VDS data, the writing and dissemination of brief monthly reports using the data, and the visitation of local AVTS's to act as a resource for implementing research on the local level. The major topics of the reports will be directed towards answering questions about the relationship between in-school student and program characteristics and out-of-school success and satisfaction data. The mailing list for the monthly reports includes all AVTS's in the state of Pennsylvania. The mailings are addressed to the "Student Services Director," "Vocational Counselor," or similar titled persons in each school and include two copies of each report. It is hoped that the individual receiving the reports will see to it that they are shared with others in the school who could benefit from them, including: directors, other counselors, and job placement and cooperative education coordinators. With each report, an offer is being extended on the part of the project staff to visit with local AVTS personnel to discuss the relevancy of the report to local problems and to help local schools set up their own research of a similar nature.

VDS DATA BANK

In order to provide sufficient background for the studies and reports which will follow, the type of data available in the VDS data bank is described here. In-school data collected between ninth and twelfth grades for the Altoona, Hazleton, and Williamsport samples includes: school grades for all subjects, attendance, aptitude as measured by the GATB as well as instruments (DAT, CTMM), biographical information (sex, parents' occupational and educational level, etc.), educational and occupational plans and aspirations, occupational values (OVI), vocational maturity (CMI), vocational interests (VPI, OVIS, and others), shop achievement (OTAT), and high school curriculum (vo-tech, academic, etc.). Out-of-school follow-up data collected approximately one year after graduation from high school includes: post high school educational activities, occupational status, personal attitudes concerning high school life experiences, occupational values, success and satisfaction with work or further schooling (GPA, MSQ, Salary, etc.) mobility information, value of high school subjects to job or schooling, unemployment circumstances, and other data.

THE FOLLOW-UP ACTIVITY

In order to assure the success of the follow-up phase of the VDS project, a number of preparations were necessary. While the students were still in high school, addresses and other identification information were collected, and the student's cooperation was requested in numerous personal and written appeals. The Altoona follow-up (1973) preceded the Hazleton and Williamsport follow-ups by two years. In order to gather the follow-up information most useful to the schools involved as well as for the purposes of the project, a machine scoreable follow-up questionnaire was designed in cooperation with school guidance personnel. The questionnaire is made up of four parts which are printed on both sides of two sheets. The entire sample was asked to respond to part A, while part B is designed for those involved in further schooling, part C for those employed, and part D for those unemployed. It is hoped that this questionnaire can be useful to other school systems interested in similar follow-up activities. In order to increase the questionnaire return rate

and study the follow-up activity itself, a number of incentives were used in the Altoona follow-up. The incentives included the mailing of birthday cards during the year preceding the follow-up, use of various colored papers and a pencil in the follow-up packet, a small useful gift in every packet, and a drawing for prizes in conjunction with the returning of the questionnaire. The Hazleton and Williamsport follow-ups used only the colored paper and a pencil as incentives.

FOLLOW-UP RESPONSE

All questionnaires were initially mailed in the Spring of the year following graduation. A second mailing to non-respondents was sent out approximately one month later. Table I describes the responses to the questionnaire for all three samples. From examining the table, it can be seen that the return rate for the Altoona sample, which used extensive incentives, was 68 percent and exceeded by 9 percent and 18 percent the return rate for the Hazleton and Williamsport samples for which extensive incentives were not used. Furthermore, inspection of data not available in the table indicates that much of the loss in return rate occurred among those students enrolled in the vocational-technical curriculum in high school.

TABLE I: Response to Follow-up Questionnaire for all three samples.

FOLLOW-UP ACTIVITIES	ALTOONA 1973	HAZLETON 1975	WILLIAMSPORT 1975
Initial Meeting	1197	1060	744
Non-Deliverable	-51	-23	-30
Total Available Population	1146	1037	714
Initial Mailing Response	593	460	252
Follow-up Mailing Response	188	150	100
TOTAL returns	781	610	352
Total Returns as % of Available Population	68%	59%	50%
Follow-up Sample Description	#/%	#/%	#/%
Post Secondary Education	305/39	336/55	154/43
Employed	380/49	214/36	143/40
Unemployed	96/12	60/9	55/17
TOTAL SAMPLE	781/100%	610/100%	352/100%

The percent breakdown for each of the parts of the questionnaire representing those enrolled in post-secondary education, employed and unemployed is provided at the bottom of Table I. It can be seen from the table that for those responding, Altoona graduates had the highest employment rate, the Hazleton sample had the highest post-secondary education rate, and the Williamsport sample had the highest unemployment rate. It should be remembered that the Altoona sample graduated two years before the other two samples at a time when the employment picture was much better than it was in the Spring of 1975. For all samples, the fairly high unemployment rate

for all graduates is evident; however, since the sample is not random, but is a volunteer sample, it is likely that the actual unemployment rate is much higher due to the probability that a greater number of unemployed tend to be non-responders.

FAMILY - EDUCATION - EMPLOYMENT STATUS OF GRADUATES

Four of the questions in Part A of the questionnaire delt with the current status of the graduates in terms of their family, post secondary education, and occupation. A breakdown of the response to each question is included here in order to provide additional background concerning the out-of-school status of the individuals in the sample for whom follow-up data is available. It should be pointed out, that the respondents were asked to check one category each for both the educational and occupational status questions, but were directed to choose their primary status in selecting parts B, C, or D of the questionnaire for further responses.

I. Living with parents or guardian? N/%

	Altoona	Williamsport	Hazleton
yes	622/80%	270/77%	542/90%
no	157/20%	79/23%	62/10%

II. Present marital status. N/%

Single	671/86%	303/87%	576/96%
Married	105/13.5%	44/12.99%	21/4%
Divorced	1/.5%	3/.01%	0/0%

III. Present educational status. N/%

	School Full Time	School Part Time	No School	Other
Altoona	299/39%	21/3%	405/52%	48/6%
Hazleton	331/56%	5/1%	225/38%	25/4%
Williamsport	153/44%	8/2%	173/50%	14/4%

IV. Present occupational status. N/%

	Employed Full Time	Employed Part Time	Unemployed Looking	Unemployed Not Looking	Military	Housewife	Other
Altoona	301/39%	135/17%	74/10%	79/10%	44/6%	39/5%	103/13%
Hazleton	184/31%	109/18%	80/13%	96/16%	9/2%	9/2%	107/18%
Williamsport	123/36%	60/17%	41/12%	41/12%	14/4%	18/5%	49/14%

PPGA PRESENTATION

The project staff from Lehigh University will present a paper on the use of ninth grade information as a tool for counseling perspective vocational-technical students. The presentation will be a part of the PPGA Convention being held at the Philadelphia Marriott Hotel on November 2, 3, and 4 and will take place on Monday morning, November 3, from 10:15 to 11:45 in the Atlanta Room. Perhaps we will see you there?

VDS REPORT

FOR THE DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH

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. 1 No. 2 November, 1975

INTRODUCTION TO VDS REPORT #2

This VDS Report, as the second in our series, requires much less introduction than did the first edition which was mailed approximately one month ago. As our readers can tell by this report, our color has changed since last month from gold to blue. Our plans call for a different color each month, which will make for an attractive pile of reports by the end of the school year as well as making it easier to refer to any particular report by its color.

In case you still have some questions about what we are attempting to do with these reports, we suggest you reread our first report (the gold one) in order to get the whole picture. To restate our goals in brief terms, we are first of all, attempting to disseminate the results of vocational development research conducted as a part of the VDS project. The project, which was begun in 1968, has followed the ninth grade classes from Altoona, Hazleton, and Williamsport, Pennsylvania, through their high school years and out into the world of work or further education. By describing the vocational and educational behavior of these students, we hope to uncover information of use to all those involved in vocational education in Pennsylvania. Our second goal is to assist local vocational education personnel devise their own research and development activities of a nature similar to those undertaken in the VDS Project. For this reason, we are extending an offer to visit with interested AVTS personnel to discuss the relevancy of our reports to local problems and local research efforts of a similar nature.

STUDENT SATISFACTION

The focus of this second report is on student satisfaction and is divided into three separate studies. The first of these studies deals with the response of all three samples (Altoona, Hazleton, and Williamsport) to satisfaction type questions posed to the students near the end of their twelfth grade year. The second study reports some of the finding published as part of VDS monograph 21 which deals with predicting curriculum satisfaction. The third study was conducted as a part of the Hazleton and Williamsport follow-up during April, 1975, and is a telephone survey of graduates dealing with their perceptions of the guidance and counseling they received while in high school.

Because some of the data reported in these studies bring one of our samples in direct comparison with another, we will follow the practice of refering to our samples as X or Y or Z. We have chosen this approach because it is not our intention or purpose to draw attention to any one school systems' good or bad characteristics. Instead, it is hoped that our readers will find the experiences of all three of these school systems useful in making judgments about their own educational endeavors.

TABLE 1. Satisfaction with School and Self (Vo-Tech vs. Non Vo-Tech).

School Rating - Questions 1-13	School X		School Y		School Z	
Self Rating - Questions 14-24	VT N = 319	NVT 556	VT 93	NVT 447	VT 97	NVT 379
1. Variety of programs offered.	3.87	3.67	2.66	2.66	3.54	3.89
2. Status of your program among the other programs.	3.85	3.74	3.09	3.20	3.32	3.65
3. Quality of instruction.	3.55	3.31	2.83	2.74	3.26	3.22
4. Interest your teachers have shown towards you.	3.39	3.23	2.54	2.75	2.89	3.07
5. Opportunity to do individual study.	3.22	3.12	2.44	2.58	2.54	2.85
6. Providing the kind of educational experience you expected.	3.51	3.30	2.69	2.56	3.22	3.15
7. Opportunities for student involvement in program decisions.	3.03	2.95	2.56	2.17	2.74	2.80
8. Flexibility to adjust to meet your special needs.	3.03	2.93	2.52	2.37	2.70	2.80
9. Relevancy of class content.	3.22	3.17	2.54	2.54	2.73	2.97
10. Ease of access to a guidance counselor.	2.67	2.58	3.30	3.35	3.47	3.93
11. How well your guidance counselor knows you.	2.11	2.26	2.43	2.70	2.56	3.49
12. Usefulness of the information you get from guidance counselors.	2.38	2.34	2.61	2.87	2.89	3.54
13. Your degree of satisfaction with your overall high school experience.	3.39	3.39	2.84	2.82	3.00	3.26
14. Scholastic ability.	3.41	3.68	3.07	3.54	3.26	3.49
15. Interest and motivation toward your studies.	3.26	3.41	2.87	3.04	2.94	3.16
16. Time spent on school work.	2.67	2.96	2.39	2.61	2.43	2.68
17. Satisfaction with your achievement in school.	3.37	3.46	3.09	3.14	3.17	3.25
18. Satisfaction with your program.	3.65	3.42	3.49	2.91	3.70	3.31
19. Involvement in school activities.	2.51	2.94	2.11	2.98	2.06	2.87
20. Persistence in getting a task done.	3.56	3.62	3.46	3.48	3.34	3.54
21. Knowledge of your strengths and weaknesses.	3.79	3.94	3.59	3.63	3.63	3.86
22. Knowledge of your interests and abilities.	4.04	4.12	3.72	3.84	3.78	3.92
23. Knowledge of different occupations.	3.58	3.45	3.29	3.37	3.64	3.54
24. Knowledge of post-high school educational alternatives.	3.27	3.41	3.11	3.30	3.31	3.46

NOTE: Underlined Means are significantly greater at the .05 level.

SCHOOL RATING AND SELF RATING

Table 1 reports the results of the comparisons between Vo-Tech (VT) and Non Vo-Tech (NVT) students on their responses to School and Self rating questions which were obtained near the end of twelfth grade. The numbers reported in the table are arithmatic Means calculated for a scoring system which ranged from 1 to 5: Low to High. A pooled variance "t" test was used to examine difference between Means for each sample. Although many pieces of useful information can be observed from the table, some of the most noticeable include the following: (1) School Z NVT students appear to be the most satisfied as compared to their counterparts. (2) School X VT students tended to rate their school higher and their selves lower than their counterparts. (3) VT students were significantly more "satisfied with their program" (questions #18) than were NVT students for all three samples. (4) VT students for all three samples rated their "involvement in school activities" (question #19) lower than NVT students. (5) School Y VT and NVT students were more similar in their satisfaction ratings than either Schools X or Z.

CURRICULUM SATISFACTION

The research reported here was conducted by Randall B. Martin and is published as part of VDS monograph 21. The monograph itself is fairly lengthy and only selected findings are reported here. The data for the study was drawn from various student characteristics assessed between ninth and twelfth grade for all three VDS samples. The satisfaction variable used was taken from the data reported in Table 1 and is the combined scores for the responses to questions 17 and 18. For all three samples (N = 1063), the average satisfaction score was 6.79 on a scale of 2 to 10. The level of satisfaction was found to be related to curriculum with students in the Academic, Business and Vocational curricula experiencing approximately equal satisfaction and students in the General curriculum experiencing significantly lower satisfaction. Furthermore, level of satisfaction was also found to be related to school system enrollment with two of the schools approximately equal in satisfaction and the third significantly higher in satisfaction. When an attempt was made to predict curriculum satisfaction using 18 different characteristics from the cognitive and affective domains, School rating and Self rating variables were the most useful predictors. Cognitive variables such as GATB scores and GPA were significant, but weak predictors. The most important findings of the Martin study appear to be that student satisfaction does vary for different schools and different curricula and is influenced more by affective than by cognitive characteristics of the individual.

PERCEPTIONS OF HIGH SCHOOL GUIDANCE

Table 2 reports the results of a telephone follow-up study conducted in April of 1975 and reported in the VDS Final Report for the 1974-75 project year ("An Examination of the Relationships Between the High School Experiences of Youth and Success and Satisfaction in Post-Secondary Endeavors," Herr, Enderlein, and Martin, July, 1975). The samples for this study were randomly chosen from both respondents and non-respondents to the mailed one-year follow-up questionnaire. Much of the information presented in the table can be used as a baseline against which any school may wish to compare itself on a similar type study. A striking feature of the information is the wide range of differences between the samples on several key questions. For example, question #1, dealing with assistance from counselors on course scheduling, and question #5 which rates counseling received, overwhelmingly favor School Y. However, more students in School X received assistance with greater frequency and for the longest period of time than did students in School Y. A more complete report of this study can be obtained from VEIN at the address provided in the first newsletter.

TABLE 2. Responses to Guidance Telephone Questionnaire.

Questions		Sample Size X=89 Y=59						%	Yes	No
1. Did you receive assistance from counselors in your high school on course scheduling?								X	42	58
								Y	85	15
Frequency:		1	2	3	4	5	10+			
Times/yr.	X	5%	16%	39%	9%	11%	20%			
	Y	31%	41%	0%	8%	8%	12%			
How Long:		5	10	15	20	30	30+			
Min./yr.	X	5%	16%	39%	9%	11%	20%			
	Y	10%	18%	40%	12%	16%	4%			
2. Was there a Career Resource Center available for your use while you were in high school?								X	74	26
								Y	85	15
Did you use it?								X	58	42
								Y	50	50
Frequency:		1	2	3	4	5	10+			
Times/yr.	X	27%	24%	8%	5%	16%	20%			
	Y	25%	29%	4%	25%	8%	9%			
3. During high school, were you given the opportunity to take tests and inventories to help you in career planning?								X	81	19
								Y	85	15
Were the results explained to you?								X	45	55
								Y	73	27
4. Did you receive counseling in high school on career planning?								X	45	55
								Y	56	44
Frequency:		1	2	3	4	5	10+			
Times/yr.	X	42%	30%	12%	0%	5%	11%			
	Y	22%	32%	10%	13%	10%	13%			
How Long:		5	10	15	20	30	30+			
Min./yr.	X	10%	13%	30%	10%	15%	22%			
	Y	7%	10%	28%	17%	28%	10%			

5. How would you rate the counseling you received?

	Really Helpful	Satisfactory	Bad	No Comments
X	15%	36%	24%	25%
Y	33%	55%	9%	3%

6. If given the opportunity now, would you seek vocational counseling from your high school counseling office to improve your present situation?	X	48	52
	Y	60	40

VDS REPORT

FOR THE DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH

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. 1 No. 3 December, 1975

INTRODUCTORY REMARKS

As this is our third VDS Report, we hope it needs little introduction to our readers. The previous two reports provide much of the information necessary to gain an understanding of our efforts to communicate research finding through this newsletter. As stated previously, we hope all Pennsylvania AVTS's as well as others receiving the report find the information presented to be useful, and that many of you take the opportunity to write or call our office to discuss topics from the reports of particular relevance to your school setting. As requests for further information are received, we will attempt to visit with as many schools as possible. As a reminder to our readers, we would like to point out that the samples referred to in this report were drawn from the Altoona, Hazleton, and Williamsport school systems. In order to preserve each schools' anonymity, they are randomly referred to as X, Y, and Z. The data for this report were obtained from a follow-up questionnaire returned approximately ten to twelve months after graduation from high school during the Spring of 1973 and 1975.

MALES vs. FEMALES

The focus of this third VDS Report is on Sex as it relates to possible differences which might exist between males and females in their life experiences approximately one year after graduation from high school. The topic of sexism in our educational and occupational world is attracting a great deal of interest currently, and therefore, information on sex differences should be useful to all those concerned with the issue. Recent testimony before congressional committees dealing with new Vocational Education federal legislation has concerned itself extensively with sexism in Vocational Education. The information selected for presentation in this report is but a small part of the total information available in the VDS data bank which could be examined along sex lines. Indeed, all in-school and out-of-school student outcomes can be compared in this manner. The data presented here was selected because it deals with several significant school outcomes: particularly, perceptions of high school experience, educational and occupational mobility and success, and unemployment circumstances. This report will be followed next month by a report which will examine these same variables as they relate to high school curriculum. It is hoped that both reports taken together will provide much greater insight into the sex and curriculum issues now facing all vocational school counselors and administrators. We regret that we cannot deal with the two topics together, but to attempt such a presentation would be beyond the scope and size of a newsletter. Additional sex and curriculum information will be included in other future reports.

Table 1. Mean and sample size for High School Education Question: "How Satisfied Are You With Your High School Education?" (1 to 5 point scale, 1 = low satisfaction, 5 = high satisfaction).

Sub Sample	School X				School Y				School Z			
	M		F		M		F		M		F	
	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$
Further Education	158	3.6	144	3.7	148	3.6	187	3.6	75	3.9	79	3.9
Employed	166	3.5	207	3.7	86	3.4	100	3.6	54	3.6	70	3.8
Unemployed	27	3.0	68	3.4	25	3.1	31	3.2	19	3.3	31	3.8

Note: Mean difference between males and females are not significantly different at the .05 level.

PERCEPTION OF HIGH SCHOOL EXPERIENCE

Table 1 (above) presents data concerning the graduates' satisfaction with their high school education. From an examination of the table, it can be observed that for all three samples, females perceived their high school education with equal or greater satisfaction than did the male graduates, although the differences were not statistically significant. However, the more obvious satisfaction differences were not related to sex, but were related to post high school activity. Although the differences were not tested for statistical significance, the trend appears to show that those who have gone on to further education were most satisfied, closely followed by those who were employed. As one would expect, those who were unemployed were the least satisfied.

Table 2 (below) reports the graduates' perceptions of high school in a little different manner, posing the question of the relationship between high school and their present life activity. From the table, it can be seen that in all cases those who went on to further schooling found their high school education most related to their current status, however, no sex differences exist for this group. The most interesting finding in this analysis is the greater relatedness between high school education and their present job expressed by females (two out of three samples yielded beyond chance differences). Much of these differences are almost surely connected to curriculum differences and this hypothesis will be examined in next month's report. A possible surprise finding reported in the table is the relatively greater relatedness expressed by the unemployed when compared to the employed. Apparently, the high school education provided by all three school systems in the sample is more related to living in the real world than it is to specific employment.

Table 2. Mean and sample sizes for High School Education Questions concerned with the relationship between High School Education and: (1) Post High School Education (2) Present Job, and (3) Real World. (1 to 5 point scale, 1 = low relationship 5 = high relationship).

Sub Sample	School X				School Y				School Z			
	M		F		M		F		M		F	
	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$
Further Education (1)	158	3.4	144	3.4	148	3.3	186	3.3	75	3.6	79	3.6
Employed (2)	166	2.6	206	<u>3.1</u>	86	2.7	100	2.9	54	2.5	70	<u>3.2</u>
Unemployed (3)	27	3.1	69	3.4	25	3.0	31	3.1	19	3.2	31	3.3

Note: Underlined Means (males vs. females) are significantly greater at the .05 level.

Table 3. Means and sample size for Post High School questions: (1) Distance between your hometown high school and school you attend? (2) Present grade point average?

	Question	School X		School Y		School Z	
		M	F	M	F	M	F
(1)	Average Miles	(N=158) 313	(N=144) 211	(N=147) 466	(N=185) 401	(N=75) 461	(N=78) 428
(2)	Average GPA (using 4 pt. scale 4=A)	(N=147) 2.64	(N=137) 2.85	(N=134) 2.71	(N=141) 2.91	(N=63 2.66	(N=69) 2.79

Note: Underlined Means (males vs. females) are significantly greater at .05 level.

EDUCATIONAL AND OCCUPATIONAL MOBILITY AND SUCCESS

Table 3 (above) presents data for that portion of each sample which went on to further education. The mobility question is expressed in terms of average miles from hometown high school to present post-secondary school. Although in all three samples, the males traveled more average miles than did the females, the differences are not great enough to be statistically significant. When the three samples are compared on GPA; however, females have experienced greater success in further schooling than have males (two out of three differences are statistically significant). The data does not suggest a reason for this difference; however, greater maturity and a more serious attitude toward school are popular explanations.

Table 4 (below) deals with those individuals in the three samples who are employed. As opposed to the rather clear cut findings for those engaged in further schooling, employed males tend to be more mobile than females in only two of the three samples (only the sample X difference is statistically significant). No explanation for the great mobility of school Z females is apparent except the possibility that a few extreme distances may have greatly affected the average. When both beginning and present salary are examined, the greater earning power of males, which we have come to expect, is evident most strikingly in samples X and Y. For sample Z, the beginning salaries are almost equal, but the present salary shows the same trend of male dominance as does the other two samples. It should be remembered that it is unlikely that the males in the sample have any educational advantages which could account for these large discrepancies.

Table 4. Means and sample size for Post High School Questions related to employment: (1) Distance between your home high school and your present job? (2) What was the approximate beginning weekly salary of your first job? (3) What is your approximate present weekly salary?

	Question	School X				School Y				School Z			
		M		F		M		F		M		F	
		N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$
(1)	Average Miles	169	277	207	94	88	455	99	254	56	339	79	515
(2)	Beginning Salary	164	$ 93	198	$78	80	$117	94	$88	56	$106	65	$103
(3)	Present Salary	166	$108	197	$84	79	$139	93	$99	55	$134	65	$110

Note: Underlined means (males vs. females) are significantly greater at the .05 level.

Table 5. Frequencies and Percents for Post High School Questions related to unemployment.

Question		(N=95) School X				(N=58) School Y				(N=51) School Z			
		Yes		No		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%	N	%	N	%
Have you had a full time job since high school?	M	15	16	11	12	17	29	8	14	19	37	0	0
	F	41	43	28	29	18	31	15	26	19	37	13	26
Have you had a part time job since high school?	M	15	16	11	12	9	15	16	28	6	12	13	27
	F	25	27	42	45	14	24	19	33	9	18	21	43
Would you move to another area if a job was available?	M	20	21	6	6	14	24	11	19	12	25	6	12
	F	33	35	36	38	13	22	20	35	8	16	23	47
Have you attempted to find a job through the classified ads?	M	20	21	6	6	20	34	5	9	16	33	2	4
	F	45	48	23	25	26	45	7	12	22	45	9	18
Have you registered with Pa. Employment service?	M	16	17	10	11	19	33	6	10	12	24	6	12
	F	42	44	27	28	19	33	14	24	15	31	16	33
Have you received any job leads from Pa. Employment Service?	M	5	5	21	22	7	12	18	31	7	14	11	22
	F	21	22	48	51	11	19	22	38	6	12	25	51
Has a teacher, guidance counselor, or any school official helped you try to find a job?	M	2	2	24	25	3	5	22	38	2	4	16	33
	F	12	13	57	60	5	9	28	48	6	12	25	51

Note: Frequencies which are underlined are those significantly different from chance occurrences at the .05 level. Percents are rounded to nearest whole numbers.

UNEMPLOYMENT

Table 5 (above) presents a frequency analysis of Yes and No answers to questions pertinent to the unemployment circumstances of the males and females in our three samples. For all samples taken together, unemployed females outnumbered unemployed males approximately 2 to 1. Also, approximately two-thirds of those currently unemployed have held a full time job since high school, with males fairing significantly better than females only in sample Z. Along sex lines, the most significant finding is the lack of willingness to be mobile on the part of the females in the sample. This finding is in line with the mobility information concerning further schooling and employment reported in the previous sections of this newsletter. This lack of mobility is, in most cases, a cultural phenomena and probably cannot easily be changed. Most of the other data presented in table 5 does not differ greatly along sex lines, but does show evidence of some of the problems of the unemployed. For example, while approximately 60 percent of the unemployed have registered with the Pennsylvania Bureau of Employment Security, only about 30 percent have reported job leads resulting. An even more striking, although not surprising, finding is the absence of help from school officials reported for all three samples. The role of high schools in helping graduates find work is likely to change towards greater involvement in the near future.

VDS REPORT

FOR THE DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH

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. 1 No. 4 January, 1976

INTRODUCTORY REMARKS

This VDS Report represents the fourth in our planned series of eight reports for this school year. It is hoped and expected that the information contained in these reports is relevant to most school systems in Pennsylvania which participate in vocational education through the AVTS approach. In order to expand the impact of the research which provides the substance of these reports, we are again extending an offer to visit with interested schools. Also, if any of our readers have questions or suggestions concerning our reports, we would be pleased to hear from you.

CURRICULUM: VO-TECH vs. ACADEMIC vs. OTHERS

As we hope our readers will recall, our last VDS Report (pink) focused on the relationship between a students' sex and his or her life experiences one year after graduation from high school. This report is an exact replication of our previous report with the students' curriculum instead of his or her sex being the basis of comparison. Because of the diversity of the names and number of curricula in our three samples (Altoona, Hazleton, and Williamsport) it was necessary to group students into three curricula for the purpose of this study. The curricula groups selected for study were: Vo-Tech (those attending an AVTS), Academic (college preparatory) and Others. It should be pointed out that a large number of those grouped in the Others category included vocational students in the Business and Home Economics curricula. As before, the three samples are referred to as X, Y, and Z to preserve anonymity. In order to gain the most from the data in this report, it is suggested that it be compared with the previous report to simultaneously evaluate sex and curriculum outcomes.

PERCEPTION OF HIGH SCHOOL EXPERIENCE

Table 1 (next page) presents data concerning the graduates' satisfaction with their total high school education. Two types of information are evident from data presented. First of all, the number of students who fall into each category of post high school activity (Further Education, Employed, Unemployed) can be compared for each curricula although no statistical test can be applied to these frequencies. A non-statistical examination of frequencies appears to indicate that those going on to further schooling tend to come from the academic curriculum as would be expected; but, those employed and unemployed do not show clear-cut curriculum differences. However, it must be pointed out that many of these frequency differences are due to sampling fluctuations, and therefore, cannot be directly compared.

Table 1. Mean and sample size for High School Education Questions: "How Satisfied Are You With Your High School Education?" (1 to 5 point scale, 1 = low satisfaction, 5 = high satisfaction).

	School X			School Y			School Z		
Sub-Sample	V-T	ACA	Other	V-T	ACA	Other	V-T	ACA	Other
Further Education	(N=51) 3.8	(N=217) 3.6	(N=26) 3.8	(N=3) 4.0	(N=188) 3.6	(N=14) 3.7	(N=5) 3.6	(N=92) 4.0	(N=15) 3.9
Employed	(N=147) 3.7	(N=59) 3.3	(N=137) 3.7	(N=25) 3.3	(N=47) 3.6	(N=33) 3.8	(N=21) 3.6	(N=27) 4.0	(N=48) 3.8
Un-Employed	(N=32) 3.4	(N=8) 3.4	(N=32) 3.5	(N=8) 3.4	(N=5) 2.2	(N=5) 3.4	(N=5) 3.4	(N=8) 3.8	(N=18) 3.9

Note: Underlined sets of means are significantly different at the .05 level.

Examining the data to detect satisfaction differences does not yield consistant findings. While for those employed from the school X sample, Academic students were significantly less satisfied, the rest of the curriculum comparisons are both non-significant in a statistical sense and lacking in trends across samples. Within samples, school X does show a trend towards Academic students being less satisfied in all categories, while school Z shows Academic students to be the most satisfied. It is likely that the trends observed within the samples are due to school and community differences but speculation concerning school and community differences is avoided here in order to preserve the anonymity of the school systems involved.

Table 2 reports the graduates' perception of the relatedness of their high school education to their current status. Responses to this question are much more clear cut than those presented in Table 1. In eight of the nine comparisons, (four statistically significant) the Academic curriculum judged their high school education to be less related to their present status. This finding appears to hold true regardless of whether further education, employment, or unemployment is the current status of the graduate. This outcome is particularly surprising in the area of further schooling where Academic students should find their high school education more related. Considering that both the Vo-Tech and the Others category contains a majority of students in one or another vocational program, the findings appear to show that vocational students in general find their high school program more related to their current status than do Academic students.

Table 2. Mean and sample size for High School Education Questions concerned with the relationship between High School Education and (1) Post High School Education, (2) Present Job, and (3) Real World. (1 to 5 point scale, 1 = low relationship, 5 = high relationship).

	School X			School Y			School Z		
Sub-Sample	V-T	ACA	Other	V-T	ACA	Other	V-T	ACA	Other
Further (1) Education	(N=51) 3.7	(N=217) 3.3	(N=26) 3.7	(N=3) 4.0	(N=188) 3.3	(N=14) 3.5	(N=5) 3.8	(N=92) 3.6	(N=15) 4.0
Employed (2)	(N=147) 2.9	(N=59) 2.1	(N=136) 3.2	(N=25) 3.0	(N=49) 2.6	(N=32) 2.8	(N=21) 3.1	(N=27) 2.5	(N=48) 3.2
Un- (3) Employed	(N=32) 3.5	(N=9) 3.2	(N=32) 3.5	(N=8) 2.9	(N=5) 1.8	(N=5) 3.6	(N=8) 3.1	(N=5) 3.2	(N=18) 3.7

Note: Underlined sets of means are significantly different at the .05 level.

Table 3. Means and sample size for Post High School questions: (1) Distance between your hometown high school and the school you attend? (2) Present grade point average?

Question	School X			School Y			School Z		
	V-T	ACA	Other	V-T	ACA	Other	V-T	ACA	Other
(1) Average Miles	(N=51) 431	(N=217) 222	(N=26) 194	(N=3) 102	(N=188) 346	(N=13) 474	(N=5) 133	(N=91) 313	(N=15) 548
(2) Average GPA (using 4 pt. scale 4=A)	(N=47) 2.70	(N=206) 2.72	(N=24) 2.94	(N=1) 2.75	(N=161) 2.85	(N=7) 2.43	(N=3) 2.94	(N=81) 2.71	(N=8) 2.84

Note: Mean differences among the three curricula are not significant at .05 level.

EDUCATIONAL AND OCCUPATIONAL MOBILITY AND SUCCESS

Table 3 (above) presents mobility (average miles to school) and success (Grade Point Average-GPA) data for those individuals in the three samples who were primarily involved in further schooling one year after graduation from high school. From the table, it can be seen that none of the differences among the three curricula were statistically significant for any of the three samples. However, except for sample X, there were not enough students in the Vo-Tech or Others curricula to conduct a reliable comparison. In terms of mobility across samples, Vo-Tech students in school X and Others in school Z appear to be the most mobile. Comparing GPA across samples, it can be concluded that vocational students in general, from either the Vo-Tech or Others curricula, are achieving as well in further schooling as are Academic students.

Table 4 (below) contains mobility (average miles to work) and success (average beginning and present salary) data for individuals in the three samples who were employed. Again, the differences among the three curricula are not statistically significant for any of the samples. In the case of this analysis, sample size does not appear to have affected the comparisons. The trends for all three samples indicate that graduates from the Vo-Tech and Others curricula are more mobile than are the Academic graduates. When salary data is analyzed, Vo-Tech and/or Others graduates faired better in five of the six comparisons. Also, when beginning salary is compared to present salary, the Vo-Tech and Others graduates appear to be maintaining most of their advantages.

Table 4. Means and sample size Post High School Questions related to employment: (1) Distance between your home high school and your present job? (2) What was the approximate beginning weekly salary of your first job? (3) What is your approximate present weekly salary?

Question	School X			School Y			School Z		
	V-T	ACA	Other	V-T	ACA	Other	V-T	ACA	Other
(1) Average Miles	(N=150) 201	(N=60) 145	(N=136) 161	(N=27) 348	(N=49) 194	(N=32) 387	(N=23) 460	(N=28) 277	(N=52) 447
(2) Beginning Salary	(N=142) $ 86	(N=58) $ 90	(N=132) $ 81	(N=22) $108	(N=46) $ 89	(N=31) $103	(N=24) $107	(N=26) $ 86	(N=44) $114
(3) Present Salary	(N=146) $ 99	(N=56) $ 97	(N=131) $ 88	(N=22) $121	(N=45) $111	(N=29) $112	(N=23) $125	(N=26) $108	(N=44) $133

Note: Mean differences among the three curricula are not significant at the .05 level.

Table 5. Frequencies and Percents for Post High School Questions related to unemployment.

Question		(N=72) School X Yes N	Yes %	No N	No %	(N=20) School Y Yes N	Yes %	No N	No %	(N=32) School Z Yes N	Yes %	No N	No %
Have you had a full time job since high school?	V-T	19	26	12	17	6	30	3	15	8	25	0	0
	ACA	4	6	5	7	4	20	1	5	4	13	1	3
	Other	19	26	13	18	2	10	4	20	13	41	6	19
Have you had a part time job since high school?	V-T	15	21	15	21	3	15	6	30	2	7	6	19
	ACA	6	7	2	3	0	0	5	25	2	7	3	10
	Other	11	16	21	30	4	20	2	10	6	19	12	39
Would you move to another area if a job was available?	V-T	17	24	14	19	3	15	6	30	4	13	3	10
	ACA	5	7	4	6	3	15	2	10	4	13	1	3
	Other	17	24	15	21	0	0	6	30	4	13	15	48
Have you attempted to find a job through the classified ads?	V-T	22	31	9	13	8	40	1	5	6	19	2	7
	ACA	6	9	2	3	4	20	1	5	5	16	0	0
	Other	22	31	10	14	5	25	1	5	13	42	5	16
Have you registered with Pa. Employment service?	V-T	21	29	10	14	8	40	1	5	6	19	2	7
	ACA	4	6	5	7	4	20	1	5	3	10	2	7
	Other	19	26	13	18	3	15	3	15	10	32	8	26
Have you received any job leads from Pa. Employment Service?	V-T	9	13	22	31	5	25	4	20	3	10	5	16
	ACA	2	3	7	10	1	5	4	20	1	3	4	13
	Other	8	11	24	33	2	10	4	20	6	19	12	39
Has a teacher, guidance counselor, or any school official helped you try to find a job?	V-T	7	10	24	33	2	10	7	35	1	3	7	23
	ACA	3	4	6	8	0	0	5	25	0	0	5	16
	Other	2	3	30	42	1	5	5	25	4	13	14	45

Note: Frequencies which are underlined are those significantly different from chance occurrences at the .05 level. Percents are rounded to nearest whole numbers.

UNEMPLOYMENT

Table 5 (above) presents frequency data for Yes and No responses to questions concerning unemployment. Only one of the comparisons differs from a chance distribution. This difference occurs for the mobility question and coincides with differences on this question presented in the previous VDS Report dealing with males vs. females. In the case of this analysis, Academic graduates who are unemployed are more willing to be mobile than are the graduates of the other two curricula. This greater willingness to be mobile on the part of Academic graduates is in contrast to actual mobility data presented in Table 4 which indicates that Academic graduates were the least mobile of the three curricula in all three samples. Examining the number of cases available for each curriculum, more Vo-Tech and Others graduates show up in the unemployment data than do Academic graduates. Again, this may be the result of sampling differences rather than curriculum differences. Overall, it appears that the characteristics of the unemployed do not differ along high school curriculum lines.

VDS REPORT

FOR THE DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH

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. 1 No. 5 February, 1976

INTRODUCTORY REMARKS

Since this is our fifth VDS Report, we assume that most of our readers are familiar with our topic as well as with our objectives; however, a brief restatement may be in order. The data for these reports has come from the longitudinal Vocational Development Study (VDS) Project which, over the past eight years, has gathered both in-school and one year out-of-school follow-up information from three selected school systems in Pennsylvania (Altoona, Hazleton, and Williamsport). Our major objective is to describe various aspects of the vocational development process as they have occurred in these three communities with the expectation that the findings have relevance for all similar communities in Pennsylvania. In order to preserve the anonymity of our three samples, they are randomly referred to as X, Y, and Z in our reports. A secondary objective of the report is to stimulate similar investigations in other school systems in Pennsylvania. In order to further this objective, we are offering to visit with interested schools and would welcome questions and suggestions concerning our reports.

STUDENT ATTITUDES AND OPINIONS

Our last VDS Report examined the relationship between a students' high school curriculum and his life experiences one year after graduation from high school. This report also utilizes the same high school curriculum categories as a basis of comparing student attitudes and opinions one year after graduation. The first part of the report compares the social and political opinions of students enrolled in the Vo-Tech, Academic, and Other curricula. The second comparison deals with the same curriculum categories as related to ratings of the value of high school subjects. Both of these comparisons yielded interesting and worthwhile findings. In some cases, the necessity of preserving the anonymity of the three samples prevents a full discussion of possible courses for the differences found.

SOCIAL AND POLITICAL OPINIONS

Table 1 (next page) presents mean opinion scores using a five point Lickert scale for twelve separate questions responded to by our three samples. Only differences among curricula within each sample were tested for statistical significance; however, many other differences are worth examining. Since it is not possible to discuss all of the many worthwhile comparisons, our readers may discover important additional findings which have been overlooked.

While overall the students in our samples appear to be relatively proud of their high school, a different curriculum yielded the highest agreement score in each of

Table 1. Mean Responses to Social and Political Opinion Statements as related to High School Curriculum. (1 to 5 point scale, 1=strongly disagree, 5=strongly agree).

Statement	School X			School Y			School Z		
	V-T (N 234)	ACA (N 286)	Other (N 197)	V-T (N 44)	ACA (N 246)	Other (N 57)	V-T (N 38)	ACA (N 125)	Other (N 90
1. I am proud of my high school.	4.0	3.8	3.9	3.5	3.5	3.7	3.7	4.2	4.1
2. It is important for my high school to have a winning football team.	3.2	3.0	3.2	2.7	2.4	2.8	3.1	3.0	2.9
3. I am proud of my hometown.	3.6	3.5	3.7	3.6	3.6	3.6	3.4	3.7	3.5
4. My high school teachers have done a good job.	3.5	3.3	3.6	3.3	3.3	3.5	3.5	3.8	3.7
5. My high school guidance program has done a good job.	2.9	2.3	2.9	3.1	2.7	2.8	3.5	3.5	3.9
6. Keeping informed of current events is important for responsible voting.	4.2	4.5	4.2	3.8	4.4	4.0	4.2	4.4	3.8
7. Voting is a responsibility.	4.0	4.1	3.7	3.5	3.9	3.6	3.9	4.0	3.6
8. People in government are basically honest.	2.7	2.8	2.7	2.3	2.6	2.2	2.3	2.5	2.4
9. I am proud to be an American.	4.5	4.5	4.6	4.3	4.3	4.3	4.4	4.4	4.4
10. Courts are too soft on those who break the law.	3.7	3.4	3.7	3.7	3.5	3.7	3.7	3.8	3.7
11. Citizens should be active in local politics.	3.7	3.8	3.5	3.5	3.8	3.5	3.7	3.7	3.4
12. Labor unions are important to the working man.	3.7	3.7	3.7	3.8	3.8	3.9	4.1	3.6	3.6

Note: Underlined sets of means are significantly different at the .05 level.

the three samples. When the importance of a winning football team was compared, the overall responses were close to neutral; however, the Academic students agreed least with the statement in the two samples where statistical differences were found. The statement concerning "proud of hometown" was scored towards the positive side, but provided no differences by curriculum. This statement can be compared with "proud to be an American" (question 9) which also produced unanimity among curricula, but was agreed to with more frequency than any other question asked. It appears that while students, regardless of curriculum, felt only slightly more than neutral about their hometown, they were very positive about their pride in their country.

Questions 4 and 5 rated high school teachers and the guidance program around the neutral point except for school Z. In five of the six comparisons, the Academic students were the least supportive in their findings. This is surprising since the Academic students are perceived to be the most favored curriculum group by most educators. Community and school characteristics could possibly account for many of the differences observed in the above data.

Questions 6 through 12 are all of a political nature. Questions 6 and 7 which both deal with voting were responded to with a considerable amount of agreement over all samples as well as with systematic curriculum differences. For all six comparisons, Academic students were in greatest agreement and significantly outscored at least one of the other two curriculum groups. Examining question 11 which is of a similar nature reveals somewhat lower scores, but the comparative analysis among curricula again finds the Academic curriculum in greatest agreement. These findings appear to yield a telling difference in curricula in what can be interpreted as a citizenship test. Since the majority of students in both of the other curricula are vocational students, this finding could be read as an indictment of certain citizenship components of our vocational programs.

Question 8 is considered by itself because it appears to stand alone. For no other question is the degree of disagreement so pronounced. It appears that our students overall do not believe that people in government are honest. Academic students are more neutral than others, but none of the curriculum groups are positively inclined. It is true that this data was collected during the Watergate affair, but its effect on this response can only be guessed at.

Questions 10 and 12 can be interpreted as offering liberal to conservative choices. Where differences were found, they do not appear to be indicative of trends across all three samples. It is interesting to note that both the Vo-Tech and Other curriculum groupings scored question 10 the same for all three samples (3.7 after rounding). For question 12 concerning labor unions, only the Vo-Tech students in sample Z responded with the relatively strong agreement which might have been expected from such a trade oriented group.

VALUE OF HIGH SCHOOL SUBJECTS

Table 2 (page 4) presents a rating of the value of certain high school subjects for the students' Present Educational Program, Present Job or for Finding Employment according to which category applies. The students' responses are reported for each of the three curriculum categories for all three samples using a five point scale similar to that used for the Table 1 responses. Again, only differences among curricula, within samples, were tested for statistical significance; however, many other useful comparisons are evident. In many cases, statistical significance was not achieved due to small sample size.

Looking at the table as a whole, it appears that for all three samples, English and Math are rated as most valuable regardless of whether the students were involved in further schooling, employment, or were unemployed. Likewise, it appears that History was rated as the least valuable subject for all samples and categories. When the three categories of post high school status are compared, it appears that those who are employed rate the value of their high school subjects lower than do either those engaged in further schooling or those unemployed. Among these latter two categories, it is somewhat surprising to discover that the unemployed rate the value of most of their high school subjects as high and sometimes higher than those who are engaged in further schooling. When differences among curricula are compared, Vo-Tech students rated Math, Science, and Social Sciences highest in five comparisons which yielded statistical significance. Academic students rated Science and Social Science highest in three cases and Other students rated English highest in one case among the other comparison for which statistical significance was discovered. When the data is examined for trends, it does not appear that any one of the three curricula systematically rate the value of their courses higher or lower than the others.

Table 2. Means and Sample Size for Ratings of the Value of High School Subjects by Post High School Categories: (1) Further Education; (2) Employed; (3) Unemployed (1 to 5 point scale, 1=no value, 5=very valuable).

Category / Subject	School X			School Y			School Z		
	V-T	ACA	Other	V-T	ACA	Other	V-T	ACA	Other
(1) Further Education									
English	(N=49) 3.6	(N=213) 3.7	(N=22) 3.9	(N=5) 3.0	(N=180) 3.7	(N=13) 4.1	(N=5) 3.0	(N=90) 3.6	(N=15) 3.7
Math	(N=50) 4.0	(N=210) 3.6	(N=22) 3.6	(N=3) 4.3	(N=180) 3.7	(N=11) 3.7	(N=5) 3.6	(N=90) 3.7	(N=13) 3.5
Science	(N=48) 3.6	(N=210) 3.9	(N=22) 2.9	(N=2) 4.0	(N=186) 3.8	(N=11) 3.9	(N=4) 2.8	(N=89) 3.6	(N=12) 2.8
Social Science	(N=39) 2.9	(N=175) 3.2	(N=21) 2.4	(N=2) 3.0	(N=167) 3.1	(N=10) 3.5	(N=2) 4.0	(N=81) 3.2	(N=10) 2.2
History	(N=47) 2.4	(N=207) 2.8	(N=19) 2.5	(N=3) 2.0	(N=171) 2.8	(N=12) 2.9	(N=4) 2.8	(N=86) 2.5	(N=13) 2.2
(2) Employed									
English	(N=147) 3.3	(N=58) 3.3	(N=135) 3.7	(N=26) 2.9	(N=48) 3.3	(N=31) 3.4	(N=22) 3.0	(N=27) 3.4	(N=49) 3.5
Math	(N=146) 3.7	(N=59) 3.5	(N=133) 3.6	(N=26) 3.7	(N=48) 3.7	(N=30) 3.6	(N=22) 4.0	(N=27) 4.1	(N=49) 3.6
Science	(N=140) 2.2	(N=58) 2.1	(N=127) 1.7	(N=26) 2.1	(N=48) 2.4	(N=28) 2.0	(N=22) 2.9	(N=26) 2.7	(N=48) 1.6
Social Science	(N=110) 2.1	(N=55) 2.3	(N=94) 2.0	(N=22) 2.3	(N=48) 2.3	(N=27) 2.4	(N=13) 2.6	(N=24) 2.8	(N=34) 2.0
History	(N=147) 1.9	(N=58) 1.7	(N=129) 1.8	(N=26) 1.6	(N=48) 1.8	(N=30) 2.0	(N=21) 2.3	(N=26) 1.9	(N=49) 1.6
(3) Unemployed									
English	(N=32) 3.6	(N=9) 4.3	(N=32) 4.0	(N=9) 3.6	(N=5) 3.6	(N=5) 4.4	(N=8) 3.5	(N=5) 4.2	(N=19) 4.2
Math	(N=32) 4.3	(N=8) 3.1	(N=32) 3.7	(N=9) 4.0	(N=5) 3.2	(N=5) 4.2	(N=8) 4.3	(N=5) 3.8	(N-19) 4.1
Science	(N=32) 2.7	(N=9) 3.0	(N=30) 2.5	(N=9) 2.8	(N=5) 2.6	(N=5) 2.4	(N=8) 3.3	(N=5) 3.0	(N=19) 2.5
Social Science	(N=27) 2.6	(N=8) 3.1	(N=24) 2.8	(N=9) 2.9	(N=5) 2.6	(N=5) 3.0	(N=6) 2.7	(N=5) 2.6	(N=14) 2.6
History	(N=32) 2.3	(N=9 2.8	(N=32) 2.7	(N=9) 2.4	(N=5) 2.2	(N=5) 2.2	(N=8) 3.0	(N=5) 2.4	(N=19) 2.4

Note: Underlined sets of means are significantly different at the .05 level.

VDS REPORT

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INTRODUCTORY REMARKS

It is hoped that this sixth VDS Report, as one of our planned series of eight reports, contains information relevant to all school systems in Pennsylvania which participate in an AVTS. If any of our readers have questions or comments concerning this or any previous report, we would be happy to hear from you. Also, we are extending an offer to visit with interested school personnel to discuss the relevance of our reports to your particular school situation. Our readers are reminded that the data for these reports were collected from the Altoona, Hazleton, and Williamsport school systems who are randomly referred to in the reports as schools X, Y, and Z.

APTITUDE AND ACHIEVEMENT

The topic for this report is the General Aptitude Test Battery (GATB) which is the standard aptitude measure utilized by the Bureau of Employment Security (BES) throughout the United States. Since 1964, the BES has made the GATB available to local schools who entered into a formal agreement which includes counselor training for administration and use. Since the time of its availability in Pennsylvania, many AVTS's in the state have arranged to use the GATB in ninth grade as a pre-vocational counseling device and/or in twelfth grade as a pre-employment aptitude measure. Because of this interest in the GATB, the VDS project collected ninth grade GATB scores from all three of its samples. The data reported here examines the relationship between GATB scores obtained in ninth grade and achievement (success) indices obtained in tenth, eleventh, and twelfth grade, as well as one year after graduation from high school.

The GATB is composed of twelve sub-tests which take approximately two and one-quarter hours to administer and yield nine aptitude scores. The nine aptitudes have been divided into three groups for the purpose of the comparisons in this report. The first three aptitudes are of a predominantly cognative nature and include G-Intelligence or General Learning Ability, V-Verbal Aptitude, and N-Numerical Aptitude. The second group, which are perceptual in nature, is composed of S-Spacial Aptitude, P-Form Perception, and Q-Clerical Perception. The last three aptitudes are of a manipulative type and include K-Motor Coordination, F-Finger Dexterity, and M-Manual Dexterity. It is because the GATB contains perceptual and manipulative aptitudes in addition to the more commonly measured cognative aptitudes that it is thought to be more appropriate for use with prospective and current AVTS students.

The in-school achievement or success measures chosen for this study include shop achievement as well as course grades in other subject areas. Shop achievement data, obtained only for Vo-Tech students, was measured by shop grades gathered at the end of tenth, eleventh, and twelfth grades as well as by Trade Achievement Test scores obtained in twelfth grade. The Ohio Trade and Industrial Education Achievement

Table 1. Correlations Between Ninth Grade GATB Cognative Aptitudes and Selected In-School and One Year Post High School Success Criteria for Vo-Tech and All Curricula. (G=General Intelligence, V=Verbal, and N=Numerical).

Curriculum / Success Measure	School X (N=)	G	V	N	School Y (N=)	G	V	N	School Z (N=)	G	V	N
Vo-Tech												
Shop 10	(207)	.32	.22	.32	(0)	--	--	--	(0)	--	--	--
Shop 11	(269)	.22	.23	.17	(84)	.46	.23	.39	(66)	.43	.30	.25
Shop 12	(308)	.27	.24	.25	(84)	.42	.23	.28	(90)	.41	.37	.35
OTAT 12	(127)	.29	.18	.09	(47)	.56	.50	.52	(42)	.51	.38	.41
English 12	(312)	.41	.39	.39	(88)	.46	.40	.25	(93)	.41	.49	.46
Math 12	(134)	.42	.41	.47	(3)	--	--	--	(91)	.42	.29	.46
Soc Sci 12	(41)	.50	.61	.38	(82)	.38	.29	.15	(92)	.49	.48	.53
Science 12	(114)	.32	.36	.20	(46)	.55	.55	.18	(93)	.01	.00	.15
GPA +1	(45)	-.08	.13	-.07	(1)	--	--	--	(2)	--	--	--
Salary +1	(124)	-.08	-.03	.00	(20)	-.02	-.11	-.20	(23)	-.24	-.21	-.41
All Curricula												
English 12	(862)	.44	.44	.43	(807)	.58	.58	.51	(628)	.34	.34	.39
Math 12	(375)	.36	.34	.42	(231)	.33	.26	.42	(282)	.48	.41	.52
Soc Sci 12	(201)	.45	.49	.37	(797)	.41	.42	.39	(577)	.51	.51	.51
Science 12	(368)	.37	.36	.29	(527)	.39	.39	.40	(384)	.26	.28	.29
GPA +1	(254)	.15	.25	.15	(261)	.35	.30	.30	(122)	.26	.23	.29
Salary +1	(515)	-.05	-.06	-.02	(163)	-.14	-.16	-.16	(114)	-.22	-.18	-.34

Underlined correlations are significantly different from zero at the .05 level.

Test (OTAT) was used to measure trade achievement (knowledge) in the twelve trade areas for which they were available. Course grades for Vo-Tech as well as for all curricula taken together were gathered at the end of twelfth grade in English, Math, Social Science, and Science. Also, for both Vo-Tech and all curricula, two post high school achievement or success measures were obtained approximately one year after graduation: Grade Point Average (GPA) for those who went on to further schooling and present weekly salary for those who were employed. In those cases where the size of the available sample was small, no correlations are reported.

ANALYSIS & FINDINGS

Table 1 (above) presents correlations for the three GATB cognative aptitudes G, V, and N. For shop grades in tenth, eleventh, and twelfth grade as well as trade achievement (OTAT) measured in twelfth grade, all correlations, except one, are significantly greater than zero. When the degree of relationship is compared to that obtained for subject area grades in twelfth grade, it can be seen that the correlations are slightly to considerably smaller. Comparing the predictiveness of shop grade over time, it appears that twelfth grade shop grades are as predictable as eleventh or tenth grade shop grades using ninth grade GATB cognative aptitudes. Comparing the predictiveness of shop grade to twelfth grade OTAT scores, it appears that trade knowledge is more predictable than shop grades at least in samples Y and Z.

Table 2. Correlations Between Ninth Grade GATB Perceptual Aptitudes and Selected In-School and One Year Post High School Success Criteria for Vo-Tech and All Curricula. (S=Spacial Aptitude, P=Form Perception, and Q=Clerical Perception).

Curriculum / Success Measure	School X (N=)	S	P	Q	School Y (N=)	S	P	Q	School Z (N=)	S	P	Q
Vo-Tech												
Shop 10	(207)	.17	.17	.15	(0)	--	--	--	(0)	--	--	--
Shop 11	(269)	.16	.08	.08	(84)	.47	.41	.32	(66)	.12	-.03	.07
Shop 12	(308)	.23	.10	.20	(84)	.38	.26	.15	(90)	.19	.00	.16
OTAT 12	(127)	.10	-.08	.00	(47)	.40	.17	.14	(42)	.27	-.02	.18
English 12	(312)	.17	.11	.17	(88)	.39	.14	.10	(93)	.03	.06	.13
Math 12	(134)	.09	.12	.20	(3)	--	--	--	(91)	.09	-.03	.11
Soc Sci 12	(41)	.13	.12	.23	(82)	.31	.11	.06	(92)	.08	.11	.20
Science 12	(114)	.13	.04	.10	(46)	.50	.09	.19	(93)	-.13	.02	.07
GPA +1	(45)	-.22	-.09	.12	(1)	--	--	--	(2)	--	--	--
Salary +1	(124)	-.12	.05	.02	(20)	.29	-.08	-.41	(23)	-.40	-.29	-.33
All Curricula												
English 12	(862)	.19	.14	.26	(807)	.28	.30	.41	(628)	.13	.23	.33
Math 12	(375)	.07	.15	.23	(231)	.18	.21	.21	(282)	.22	.23	.34
Soc Sci 12	(201)	.24	.12	.22	(797)	.21	.20	.30	(577)	.26	.25	.37
Science 12	(368)	.21	.14	.21	(527)	.18	.24	.29	(384)	.11	.19	.27
GPA +1	(254)	.01	-.01	.11	(261)	.20	.18	.14	(122)	.04	.15	.09
Salary +1	(315)	-.07	.06	.03	(163)	-.03	-.01	-.05	(114)	-.11	-.26	-.18

Underlined correlations are significantly different from zero at the .05 level.

Aptitude G appears to be the most efficient predictor among the cognative aptitudes for shop achievement; however, for non-shop achievement and for grades in other curricula, aptitudes V and/or N are better predictors as often as not. Also, the cognative aptitudes appear to predict twelfth grade subject grades for Vo-Tech and all curricula equally well. When one year post high school criteria are predicted using ninth grade GATB cognative scores, the degree of predictiveness drops considerably. While Vo-Tech GPA is not significantly related to GATB - G, V, and N, college GPA for all curricula taken together is significantly related, but to a lesser degree than was observed for in-school grades. Weekly salary one year after graduation is consistantly negatively related to GATB - G, V, and N.

Table 2 (above) presents an analysis similar to Table 1 using the perceptual aptitudes S, P, and Q. One striking difference from the previous data is the relatively lower magnitude of the correlations reported. Comparing the three aptitudes S, P, and Q, it appears that S-Special Relations is the most predictive, especially for Vo-Tech shop achievement. However, the other aptitudes also show fairly high relationships in some selected cases. While grades for all curricula are significantly related to all three aptitudes, the magnitude is much lower than was found for the cognative aptitudes. Examining the correlations between S, P, and Q and college GPA produces fairly low relationships compared to those produced by G, V, and N. When the relationship between salary and the GATB perceptual aptitudes is examined, the surprising negative correlations found in the previous analysis again are present.

Table 3. Correlations Between Ninth Grade GATB Manipulative Aptitudes and Selected In-School and One Year Post High School Success Criteria for Vo-Tech and All Curricula. (K=Motor Coordination, F=Finger Dexterity, and M=Manual Dexterity).

Curriculum / Success Measure	School X (N=)	K	F	M	School Y (N=)	K	F	M	School Z (N=)	K	F	M
Vo-Tech												
Shop 10	(205)	.12	.14	.19	(0)	--	--	--	(0)	--	--	--
Shop 11	(267)	.13	.11	.05	(84)	.12	.50	.37	(66)	-.03	.05	.09
Shop 12	(305)	.15	.16	.15	(84)	.18	.35	.40	(90)	.16	.21	.22
OTAT 12	(126)	-.04	-.01	-.01	(47)	-.10	.24	.15	(42)	.21	.08	.16
English 12	(309)	.17	.12	.13	(88)	.21	.24	.18	(93)	.21	.16	.19
Math 12	(132)	.11	.16	.07	(3)	--	--	--	(91)	.05	.16	.10
Soc Sci 12	(41)	.12	.00	.03	(82)	.25	.24	.22	(92)	.20	.19	.20
Science 12	(114)	.10	.12	.14	(46)	.35	.42	.21	(93)	.04	.04	.15
GPA +1	(44)	-.05	.00	.02	(1)	--	--	--	(2)	--	--	--
Salary +1	(122)	-.02	-.11	.12	(20)	.02	.05	.19	(23)	.14	-.12	.02
All Curricula												
English 12	(853)	.20	.14	.10	(802)	.21	.06	.10	(626)	.31	.20	.18
Math 12	(372)	.13	.12	.07	(229)	.16	.04	.00	(281)	.20	.14	.17
Soc Sci 12	(200)	.21	.08	.14	(792)	.16	.04	.09	(575)	.29	.20	.18
Science 12	(365)	.15	.10	.10	(524)	.12	.11	.06	(383)	.20	.13	.19
GPA +1	(250)	.07	-.04	.00	(258)	.06	.08	.14	(121)	.19	.19	.17
Salary +1	(310)	-.04	-.05	.12	(162)	-.13	-.01	.00	(114)	-.14	-.09	-.03

Underlined correlations are significantly different from zero at the .05 level.

Table 3 (above) presents correlations with the GATB manipulative aptitudes K, F, and M as predictors. Although many of the relationships with shop grades are significant, the magnitude is fairly low considering the hypothesized relationship between manipulative ability and shop achievement. Correlations with non-shop subjects for both Vo-Tech and all curricula are also low and approximately equal to those obtained for shop achievement. As might be expected, GATB - K, F, and M appear to be the least effective predictors of college GPA. One pattern evident throughout all three tables is the negative relationship between the GATB aptitudes and first year weekly salary.

SUMMARY & CONCLUSIONS

Overall, the GATB cognative aptitudes, G, V, and N are the most effective predictors of in-school achievement. Other GATB aptitudes from the perceptual and manipulative domains are also effective in selected cases. However, the GATB perceptual and manipulative aptitudes do not possess the degree of predictiveness for shop achievement that might be expected. For predicting post high school achievement and success, the GATB administered in ninth grade is not an effective tool. In the case of first year salary, a curious phenomena in respect to aptitude in ninth grade is apparent. It can be inferred from the data that graduates with greater aptitude made less salary after one year in the work force than do graduates with lesser aptitude, regardless of curriculum or geography. It is unlikely that this relationship is peculiar to the GATB and should be observable using other ability measures if it is a valid finding.

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. 1 No. 7 April, 1976

INTRODUCTORY REMARKS

This VDS Report is the seventh in our planned series of eight. The reports are based on analysis of data gathered as part of the longitudinal Vocational Development Study (VDS) project. The samples utilized in the project were drawn from the Altoona, Hazleton and Williamsport school systems and are randomly referred to in the reports as X, Y and Z. The primary focus of the reports is on the relationships among student and program data collected both in-school and one year after graduation. It is hoped that the findings presented will be useful to all school systems in Pennsylvania which participate in an AVTS. We extend to our readers an invitation to offer comments or raise questions concerning the information presented.

SCHOOL ACHIEVEMENT VS. POST HIGH SCHOOL SUCCESS AND SATISFACTION

Our last VDS Report examined the relationship between aptitudes as measured in ninth grade using the GATB, and subsequent success in both high school and post high school endeavors. This report deals with the same in-school success or achievement measures utilized previously, and examines their relationship to success and satisfaction one year after graduation from high school. The in-school success measures utilized include shop achievement as well as course grades in other subject areas. Shop achievement measures, obtained only for Vo-Tech students, are comprised of shop grades at the end of tenth, eleventh, and twelfth grades as well as Ohio Trade Achievement Test (OTAT) scores obtained in twelfth grade. Course grades for all students in the sample, in all curricula, were gathered at the end of twelfth grade for English, Math, Science and Social Science.

The one year after graduation success and satisfaction measures utilized for the study differed somewhat according to the status of the graduate. For those enrolled in some form of <u>further schooling</u>, the success measures selected were Grade Point Average (GPA) and the student's self estimate of Success in Post High School Education (SPE). The two satisfaction measures utilized were Satisfaction with High School Education (SHS) and Relatedness of High School Program (RHP). These latter two measures are used for all three post high school groups analyzed in this report. For those graduates who were <u>employed</u>, the success measure utilized is present weekly Salary (SAL). One of three satisfaction measures used with this group is the Minnesota Satisfaction Questionnaire Total score (SAT) which is specifically designed to measure work satisfaction. The other two satisfaction measures are the SHS and RHP described above. For the <u>unemployed</u> graduates in the three samples the same SHS and RHP measures are again used. In addition, success for this group is measured according to Length of Unemployment (LUN) in weeks and Full Time Employment (FTE) since graduation - yes or no. All relationships are expressed in terms of correlation coefficients. When the size of the sample for any one relationship was smaller than ten cases no data is reported.

Table 1. Correlations Between Achievement in High School and Post High School Education Satisfaction and Success Measures One Year After Graduation. (GPA = Grade Point Average, SHS = Satisfaction with High School Education, RHP = Relatedness of High School Program, and SPE = Success in Post High School Education).

School Achievement	School X				School Y				School Z			
Measure	GPA	SHS	RHP	SPE	GPA	SHS	RHP	SPE	GPA	SHS	RHP	SPE
(N =)	(44)	(49)	(49)	(49)								
Shop 10	.32	.37	.20	.28	--	--	--	--	--	--	--	--
(N =)	(47)	(51)	(51)	(51)	(10)	(18)	(18)	(18)	(18)	(25)	(25)	(25)
Shop 11	.29	.37	.26	.34	-.72	-.16	-.16	-.13	.34	.41	.14	.38
(N =)	(56)	(63)	(63)	(63)	(10)	(15)	(15)	(15)	(11)	(14)	(14)	(14)
Shop 12	.18	.42	.25	.20	-.04	-.08	-.12	.42	-.23	.04	-.23	.06
(N =)	(19)	(21)	(21)	(21)								
OTAT 12	.23	.41	.22	-.04	--	--	--	--	--	--	--	--
(N =)	(278)	(295)	(295)	(295)	(197)	(246)	(245)	(245)	(127)	(149)	(149)	(149)
English 12	.25	.15	.12	.15	.47	.11	.09	.14	.47	.04	.13	.13
(N =)	(149)	(155)	(155)	(155)	(97)	(111)	(111)	(110)	(64)	(74)	(74)	(74)
Math 12	.34	.26	.18	.21	.35	.12	.16	.15	.27	.17	.09	-.02
(N =)	(69)	(72)	(72)	(72)	(196)	(245)	(244)	(244)	(121)	(143)	(143)	(143)
Soc Sci 12	.28	.24	.20	.10	.39	.04	.02	.04	.17	.09	.06	-.06
(N =)	(179)	(191)	(191)	(191)	(181)	(218)	(217)	(217)	(95)	(108)	(108)	(108)
Science 12	.30	.26	.19	.19	.42	.12	.13	.21	.37	.01	.14	.18

Underlined Correlations are significantly different from zero at the .05 level.

SCHOOL ACHIEVEMENT AND FURTHER EDUCATION

Table 1 (above) presents correlations for that sample of graduates who were primarily engaged in some form of post secondary education. In all three samples, GPA is consistently positively related to achievement in academic subjects. However, for Vo-Tech students, the relationship between GPA and shop achievement is less consistent and in one case there is a significant negative relationship. Among the academic subject the best predictor was either English or Math although all four subjects studied yield high positive relationships. Examining the relationships between school achievement and the satisfaction measures, SHS and RHP produces significant positive relationships in about half of the cases with shop and academic subjects about equally divided. Considering the students' self estimate of success in post high school education (SPE) also yielded positive relationships similar to those discovered for the satisfaction variables

Overall, the findings appear to indicate that success and satisfaction in post high school education are positively related to achievement in high school, but academic subject grades for all students are somewhat better predictors of GPA than are shop grades for Vo-Tech students. Among shop achievement measures, tenth and eleventh grade shop grades were better predictors than either shop grades or the OTAT in twelfth grade. Also, the majority of significant relationships are clustered in one of the three samples (X), which may indicate that the findings do not apply equally to all school systems.

Table 2. Correlations Between Achievement in High School and Employment Satisfaction and Success Measures One Year After Graduation. (SAL = Present Weekly Salary, SAT = Minnesota Satisfaction Total, SHS = Satisfaction with High School Education and RHP = Relatedness of High School Program).

School Achievement Measure	School X				School Y				School Z			
	SAL	SAT	SHS	RHP	SAL	SAT	SHS	RHP	SAL	SAT	SHS	RHP
(N =)	(102)	(103)	(101)	(101)								
Shop 10	-.03	.04	.07	.15	--	--	--	--	--	--	--	--
(N =)	(148)	(156)	(153)	(153)	(53)	(70)	(57)	(56)	(33)	(34)	(28)	(28)
Shop 11	-.10	.02	.03	.19	-.09	-.14	-.26	.01	.10	.08	-.16	.32
(N =)	(212)	(218)	(214)	(214)	(39)	(50)	(42)	(41)	(28)	(31)	(27)	(27)
Shop 12	.05	.03	.11	.25	-.04	-.10	-.32	.20	.06	.18	-.01	.10
(N =)	(53)	(55)	(53)	(53)	(21)	(27)	(21)	(20)	(10)	(11)		
OTAT 12	-.09	-.28	.16	-.01	.26	-.28	-.22	.02	-.10	.43	--	--
(N =)	(338)	(352)	(347)	(346)	(141)	(173)	(152)	(151)	(112)	(133)	(115)	(115)
English 12	.00	.04	.08	.09	-.22	-.08	.03	.08	-.03	.02	.13	.25
(N =)	(143)	(147)	(146)	(145)	(33)	(39)	(37)	(37)	(46)	(49)	(45)	(45)
Math 12	-.13	.11	.16	.30	.31	-.13	.08	-.02	-.24	-.11	.11	.44
(N =)	(78)	(80)	(78)	(78)	(139)	(170)	(149)	(148)	(95)	(114)	(98)	(98)
Soc Sci 12	-.03	-.05	.17	-.06	-.06	-.02	-.02	.07	-.21	.08	.14	.12
(N =)	(106)	(110)	(108)	(107)	(66)	(83)	(70)	(72)	(60)	(69)	(60)	(60)
Science 12	.03	.10	.12	-.01	-.05	-.04	.15	.14	-.39	-.05	.10	.16

Underlined correlations are significantly different from zero at the .05 level.

SCHOOL ACHIEVEMENT AND EMPLOYMENT

Table 2 (above) presents correlations for those in the three samples who were employed one year after graduation. The success measure used in this analysis is present weekly Salary (SAL). When shop achievement is examined for its relationship with salary, no significant correlations are found in any of the samples. Considering academic subjects as predictors produces one positive and four negative relationships among those cases where statistical significance was obtained. When the question of satisfaction with one's work is examined, only one correlation (OTAT 12 - sample X) yields a significant relationship and that one is negative. The satisfaction variables, SHS and RHP, produce mostly positive relationships as they did in the further education analysis, however the relationships are not as strong or numerous for this group and contain two negatives with shop achievement in sample Y.

Overall, the finding of major interest appears to be that achievement in high school, vocational or academic, does not appear to be related to success or satisfaction in work one year after graduation. The somewhat negative relationships discovered for salary are consistent with negative relationships reported previously (last month - yellow VDS report) between aptitude and achievement. However, while these negative relationships are consistent with one another, they are not easily accounted for or explained.

Table 3. Correlations Between Achievement in High School and Satisfaction and Success Measures of the Unemployed One Year After Graduation (SHS = Satisfaction with High School, RHP = Relatedness of High School Program, LUN = Length of Unemployment since Graduation, and FTE = Had Full Time Employment since Graduation.)

School Achievement	School X				School Y				School Z			
Measure	SHS	RHP	LUN	FTE	SHS	RHP	LUN	FTE	SHS	RHP	LUN	FTE
(N =)	(17)	(17)	(15)	(16)								
Shop 10	.14	.18	-.02	.18	--	--	--	--	--	--	--	--
(N =)	(30)	(30)	(28)	(29)	(19)	(19)	(19)	(20)	(11)	(11)		
Shop 11	.31	.24	-.34	.24	.26	.27	-.04	-.05	.16	.55	--	--
(N =)	(41)	(41)	(39)	(40)	(13)	(13)	(14)	(14)	(12)	(12)	(10)	
Shop 12	.18	.21	-.24	.24	.24	.21	-.04	-.36	.23	.50	-.22	--
(N =)												
OTAT 12	--	--	--	--	--	--	--	--	--	--	--	--
(N =)	(74)	(75)	(70)	(74)	(44)	(44)	(43)	(46)	(45)	(45)	(36)	(46)
English 12	.27	.21	.10	.04	-.20	-.03	.20	-.07	.33	.23	-.22	.13
(N =)	(27)	(27)	(26)	(27)					(13)	(13)		
Math 12	.46	.15	-.04	-.02	--	--	--	--	.24	-.19	--	--
(N =)	(15)	(15)	(14)	(15)	(44)	(44)	(43)	(46)	(41)	(41)	(52)	(42)
Soc Sci 12	.51	.80	.18	.23	.06	.13	.17	-.18	.00	.01	-.24	-.04
(N =)	(17)	(18)	(17)	(18)	(26)	(26)	(26)	(27)	(23)	(23)	(17)	(23)
Science 12	.22	.46	-.12	.00	.10	-.03	.24	-.24	.32	.33	-.22	-.05

Underlined correlations are significantly different from zero at the .05 level.

SCHOOL ACHIEVEMENT AND UNEMPLOYMENT

Table 3 (above) presents correlations for those students in the samples who were unemployed at the time the out-of-school data was gathered. The first two variables appearing in the table (SHS and RHP) concern satisfaction with high school. The findings are similar to those observed for the other two groups involved in the study. In all cases where significance was obtained, the relationships are positive. When the success criteria selected for the unemployed group are examined (LUN and FTE), all but one correlation is non-significant, and this one produced a negative relationship. Failure to produce significance in some cases may have been due to small sample size, but most correlations were very low.

Overall, the data seems to suggest that satisfaction with school is no less related to achievement for the unemployed group than it is for those who are employed or engaged in further education. However, the limited success which the unemployed did have in finding work was not related to their achievement in school anymore than success and satisfaction in work was related to school achievement for those who were employed.

The broadest generalizations that may be drawn from the entire set of data presented in this report are: (1) while success in further schooling is related to achievement in school, success and/or work satisfaction for those who are employed or unemployed is not related to school achievement; (2) satisfaction with high school is generally related to school achievement for all post high school groups studied.

VDS REPORT

FOR THE DISSEMINATION OF VOCATIONAL DEVELOPMENT RESEARCH

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. 1 No. 8 May, 1976

INTRODUCTORY REMARKS

This is the eighth and final VDS Report for this project year. The primary focus of the reports has been the dissemination of current vocational development research. The data analyzed in the studies has come from the longitudinal Vocational Development Study (VDS) Project which was begun in 1968 at Pennsylvania State University. The samples for all reports were drawn from the three Pennsylvania communities of Altoona, Hazleton and Williamsport. They are randomly referred to in the report as X, Y, and Z in order to preserve anonymity.

OCCUPATIONAL VALUES, VOCATIONAL MATURITY, SOCIOECONOMIC STATUS AND SATISFACTION

The last VDS Report (Salmon color) examined the relationships between school achievement and post high school success and satisfaction. The purpose of this study is to compare some in-school affective and socioeconomic measures among curricula and to examine their relationship to satisfaction with employment or with post high school education one year after graduation.

The affective in-school variables selected for this study are occupational values and vocational maturity both obtained in the ninth and twelfth grades. Occupational values were measured by the Occupational Values Inventory (OVI) which was developed by Kapes and Impellitteri (1971). The OVI consists of 35 forced choice triads which measure seven values: Interest and Satisfaction (I. & S.), Advancement (Adv.), Salary (Sal.), Prestige (Pres.), Personal Goal (P.G.), Preparation and Ability (P. & A.) and Security (Sec.). The sum of all scores equals 105 with any one value's score ranging from 0 to 30. The other affective variable, vocational maturity, was measured by the Career Maturity Inventory (CMI) (Crites, 1965). The CMI consists of 50 True and False items with a range of scores from 0 to 50. Socioeconomic data analyzed for the three samples consists of father's occupational and educational levels both obtained in the ninth grade. The scale for these measures goes from low to high; the higher the number, the more skill needed for the occupations and the more years spent in school.

There are two satisfaction measures utilized in this study according to the students' type of post high school activity. For those students who were employed one year after graduation, Satisfaction With Work (SWW) was measured by the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, et al., 1969). The MSQ consists of 20 items using a Likert scale of 1 to 5 (1 = very dissatisfied to 5 = very satisfied) with a total score ranging from 20 to 100. For that group of students who were engaged in post high school education one year after graduation, Satisfaction With College (SWC) was measured by the sum of four questions from the follow-up questionnaire which examined the students' satisfaction with their post high school institution, educational program, level of success in that program, and the overall program quality. SWC was measured on a 5 point Likert scale with total scores ranging from 4 to 20.

Table 1. Means and Sample Sizes for Affective-Socioeconomic and Satisfaction Variables by Curriculum.

Variables	School X			School Y			School Z		
	V-T	ACA	Other	V-T	ACA	Other	V-T	ACA	Other
OVI 9 (N =)	(316)	(310)	(238)	(73)	(294)	(92)	(82)	(176)	(145)
I. & S.	18.7	20.7	19.0	18.3	21.3	19.0	19.3	21.2	19.5
ADV.	13.8	13.2	13.5	13.2	13.2	14.3	13.5	12.9	12.4
SAL.	13.7	10.8	13.0	15.8	11.0	12.4	13.3	11.2	13.4
PRES.	11.2	12.2	11.6	9.4	9.8	10.2	11.6	11.1	11.3
P.G.	17.5	19.4	18.5	18.8	20.6	19.0	18.2	19.9	18.5
P. & A.	17.5	17.3	17.1	18.3	19.2	19.3	17.8	18.4	18.6
SEC.	12.5	11.3	12.2	11.3	9.9	10.8	11.3	10.2	11.2
OVI 12 (N =)	(271)	(267)	(200)	(81)	(308)	(103)	(89)	(193)	(168)
I. & S.	18.6	21.6	19.7	19.1	21.9	19.7	20.4	22.4	20.0
ADV.	14.3	11.6	13.6	13.4	11.8	14.8	13.0	12.0	14.2
SAL.	16.3	14.2	14.9	17.0	15.0	16.3	14.1	14.7	14.9
PRES.	9.1	10.1	9.7	9.0	9.5	9.8	9.8	9.7	9.4
P.G.	17.0	20.2	18.0	17.4	20.5	18.4	18.0	20.7	18.7
P. & A.	18.3	17.4	19.0	18.4	17.4	16.6	18.2	16.5	17.8
SEC.	11.4	9.9	10.0	10.6	9.0	9.2	11.4	9.0	9.9
(N =)	(315)	(312)	(236)	(89)	(317)	(104)	(93)	(189)	(162)
Voc. Mat. 9	34.8	36.6	34.2	33.5	36.3	33.7	32.9	35.5	33.3
(N =)	(292)	(284)	(228)	(93)	(328)	(114)	(97)	(204)	(176)
Voc. Mat. 12	35.0	37.4	35.4	35.7	36.8	35.1	35.9	37.5	35.9
(N =)	(290)	(280)	(213)	(82)	(293)	(87)	(80)	(177)	(136)
Father's Occ.	2.6	3.2	2.7	2.8	3.1	2.9	2.8	3.5	3.0
(N =)	(295)	(295)	(216)	(87)	(310)	(96)	(86)	(181)	(144)
Father's Ed.	11.6	12.4	11.7	11.2	12.3	11.2	11.3	13.1	11.6
(N =)	(51)	(216)	(26)	(2)	(187)	(14)	(5)	(92)	(15)
SWC	16.3	16.5	15.7	16.5	16.4	16.4	15.8	15.7	17.3
(N =)	(151)	(60)	(137)	(30)	(53)	(38)	(25)	(28)	(56)
SWW	72.9	67.8	74.1	70.3	68.2	66.4	70.1	70.3	70.7

Underlined sets of means are significantly greater at .05 level.

COMPARING ALL VARIABLES BY CURRICULUM

Table 1 (above) presents mean scores by curriculum for occupational values (OVI) and vocational maturity (CMI) in the ninth and twelfth grades, father's occupational and educational levels and post high school satisfaction scores (SWC, SWW). All students from each of the three samples were divided into three curriculum catagories: Vo-tech (those attending an AVTS), Academic (college preparatory) and Others. The Others catagory includes students from the vocational areas of Business and Home Economics.

From the data in the table, it is evident that occupational values are ranked equally high or low regardless of curriculum. That is, in all three curricula and samples, Interest and Satisfaction (I. & S.), Personal Goal (P.G.) and Preparation and Ability (P. & A.) are ranked highest, while Prestige (Pres.) and Security (Sec.) are ranked lowest. This finding is the same in ninth and twelfth grades.

Among curricula, there are significant differences in 24 out of 42 comparisons. Academic students scored higher on the occupational values, Interest and Satisfaction, and Personal Goal than did the other two curricula in both grades. Also, Salary and Security were valued lowest by Academic students in all samples and in both grades.

Between the ninth and twelfth grades, the values changed in score, but not in rank. That is, the high values became higher and the low values became lower. As a result, there are more differences in the value scores among curricula in the twelfth grade than in the ninth. Generally it appears that schooling does contribute to value changes over time; however, lack of consistent trends makes it difficult to conclude that any one curriculum contributes to this change more than another.

The vocational maturity analysis in both grades produced differences which can be attributed to curriculum. The Academic students have significantly higher scores in both grades in all three schools. Between ninth and twelfth grades the students in each curriculum gained in vocational maturity, however, the Academic students maintained their superiority.

Considering the socioeconomic data, fathers of the Academic students have significantly higher educational and occupational levels than fathers of the Vo-tech and Other students. This finding is consistent with what might have been expected.

Examining the two satisfaction variables (SWW and SWC), there is only one case where a significant difference is evident. It appears that students are no more or less satisfied with their post high school activity as a result of the curriculum in which they were enrolled while in high school.

AFFECTIVE-SOCIOECONOMIC VARIABLE VS. POST HIGH SCHOOL SATISFACTION

Table 2 (page 4) presents correlations between the affective-socioeconomic variables and Satisfaction With Work (SWW), and Satisfaction With College (SWC). All the relationships between the predictor variables and both satisfaction measures are low and many are near zero. Examining all the correlations between the occupational values and satisfaction, nine of the relationships are positive and seven are negative where statistical significance was obtained. Considering the occupational values as predictors of Satisfaction With College (SWC), there are no consistent trends evident among the three schools in either ninth or twelfth grade. Examining the relationships between the occupational values and SWW, Preparation and Ability in the twelfth grade is positive and significantly related to SWW in all three samples. Overall, it appears that occupational values are better predictors of satisfaction with employment than satisfaction with post high school education, although the degree of relationships is low in both cases.

Considering vocational maturity as a predictor of post high school satisfaction produces somewhat inconsistent findings. However, in the twelfth grade, vocational maturity is positively related to both Satisfaction With Work and Satisfaction With College. The change from ninth to twelfth grade towards a more positive relationship is more evident for SWW. It appears that the more vocationally mature students are more satisfied in their employment or post high school education although the relationships are not strong. The two socioeconomic variables utilized in the study, father's occupational and educational levels, are consistently unrelated to either satisfaction measure.

Although not reported in the tables, further examining all ten predictors of satisfaction simultaneously, produced a multiple R range of .24 to .26 with the SWC and a .22 to .29 with SWW. Therefore, all ten variables taken together accounted for only 6% to 7% of the variation in the SWC scores and only 5% to 8% of the variation in the SWW scores. Of all ten variables, occupational values generally contribute the most to the multiple R with Interest and Satisfaction, Security, Advancement and Prestige making the largest contribution. Overall, it appears that ninth grade affective characteristics are only weak predictors of post high school satisfaction with either school or work.

Table 2. Correlations Between In-School Affective-Socioeconomic Variables and One Year Post High School Satisfaction Criteria. (SWW = Satisfaction With Work, SWC = Satisfaction With College).

	School X				School Y				School Z			
Variables	(N =)	SWW	(N =)	SWC	(N =)	SWW	(N =)	SWC	(N =)	SWW	(N =)	SWC
OVI 9	(330)		(269)		(182)		(299)		(124)		(135)	
I. & S.		-.06		.14		-.19		.12		-.14		-.08
ADV.		.01		-.03		.04		.08		.18		-.14
SAL.		-.11		-.19		.14		-.08		.04		.11
PRES.		.08		.08		-.11		-.12		-.11		.00
P.G.		.10		.11		-.04		.01		-.10		-.11
P. & A.		.00		-.07		.10		.01		.13		.08
SEC.		.04		.04		-.01		.02		-.02		.09
OVI 12	(274)		(243)		(166)		(290)		(103)		(109)	
I. & S.		.01		.05		.04		.10		-.06		-.18
ADV.		.03		-.05		-.11		.09		-.07		.09
SAL.		-.17		-.06		-.06		.00		-.02		.10
PRES.		07		.12		-.04		-.05		-.04		-.07
P.G.		.08		.05		.07		.01		.00		-.17
P. & A.		.15		-.07		.15		-.05		.24		.02
SEC.		-.08		-.02		.01		-.11		.01		.09
Voc. Mat. 9	(329)	-.03	(270)	.13	(199)	-.04	(321)	.09	(132)	.02	(142)	-.01
Voc. Mat. 12	(298)	.17	(256)	.10	(180)	.09	(306)	.09	(110)	.09	(116)	.05
Father's Occ	(299)	-.09	(256)	.05	(183)	-.05	(302)	-.02	(118)	.01	(132)	.08
Father's Ed.	(303)	.05	(259)	-.02	(195)	.00	(315)	-.05	(121)	-.02	(137)	-.14

Underlined correlations are significantly different from zero at the .05 level.

CONCLUDING REMARKS

The major objective of the VDS Report has been to describe various aspects of the vocational development process as they have occurred in the communities of Altoona, Hazleton and Williamsport with the expectation that the findings may have relevance for similar communities in Pennsylvania. The main thrust of the reports has been directed towards answering questions concerning the relationship between in-school student characteristics and out-of-school success and satisfaction data. The topics examined have included such in-school data as grades, aptitudes, attitudes, political opinions, school and self-satisfaction, curriculum, occupational values and socioeconomic status. Follow-up data has included post high school status, salary, mobility, school achievement, and satisfaction with work or schooling. For more complete background information on the VDS project and this year's project activities our readers are referred to VDS Report Number 1 (the gold one).

One goal of the project has been to assist local school personnel in devising their own research and development activities of a nature similar to the VDS Project. Even though this is the last in the series of scheduled reports, we are available to continue to assist you in these endeavors. We hope to further this goal with a presentation and discussion of the VDS Reports at this year's Pennsylvania Vocational Education Conference on June 21-24 at Seven Springs. We extend to our readers an invitation to attend the presentation on June 23 from 10:00 to 11:15 a.m. Hope to see you there.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations which follow from the research conducted as part of each mini-study are included in the monthly reports. The comments provided here are those which deal with the objectives of the project.

The general objective of the project was to produce and disseminate vocational development research to have an impact on vocational guidance and job placement activities. Specific objectives 1 and 2 called for the conducting of small mini-studies and the writing and distributing of brief, easily read, non-technical reports. The reports themselves serve as the best evidence that this was accomplished. Specific objectives 3 and 4 deal with the matter of having an impact on vocational guidance and job placement. These objectives call for visiting schools upon invitation and helping school personnel both to use the results of the research and to conduct their own studies. The extent to which these objectives were met is questionable since no invitations to work with schools was forthcoming. In talking with school personnel in the field about ways in which the research may be of help, the project staff discovered a good deal of lip service concerning the usefulness of this type of research activity, but a reluctance to translate this verbal enthusiasm into action. The reasons most often given for a lack of action included:

1. too many additional demands upon the time of those most likely to get involved (vocational guidance personnel, vocational administrators, job placement or coop coordinators).
2. a lack of research interest, orientation or expertise.
3. a lack of support for guidance type research and experimentation from teachers and top school administrators.
4. difficulty in translating the information gained from such research into program changes.

Since research funds in Vocational Education first became available in 1963, it appears that University and State Department of Education Vocational Education staff have perfected their research skills. However, neither the research skills nor the ability to convert research into practice has filtered down to the schools to any great extent. From the results of this research dissemination project it appears that some greater effort is necessary to convert research into practice. Without a clear perception of how it can be accomplished, the project staff recommends a concentration on research and development efforts in this area over the coming years.